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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL SHIRLEY and CRAIG HICKMAN

Appeal 2009-002402
Application 10/777,957
Technology Center 1700

Decided: January 27, 2010

Before JEFFREY T. SMITH, BEVERLY A. FRANKLIN, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 33-42 and 55-62. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Claim 33 is representative of the subject matter on appeal and is set forth below:

33. A method for cleaning a support adapted to releasably hold a wafer, comprising:

providing a cleaning surface of a cleaning head assembly;

moving the cleaning surface into contact with the support adapted to releasably hold a wafer; and

removing contaminants from the support by vacuuming the contaminants through the cleaning head assembly.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Maeda	5,330,577	Jul. 19, 1994
Satterfield	5,364,144	Nov. 15, 1994
Su	5,507,874	Apr. 16, 1996
Sada	6,062,240	May 16, 2000
Akune	10-294261	Nov. 4, 1998

THE REJECTION(S)¹

1. Claims 33-39 and 55-62 are rejected under 35 U.S.C. § 103(a) over Akune² in view of Maeda, as evidenced by Sada.³

¹ We use the Examiner's Answer mailed November 3, 2006. In the Answer, the Examiner indicated new grounds of rejection. Ans. 2. Appellants responded to these new grounds of rejection in the Reply Brief mailed January 5, 2007.

² Appellants' reference to "Shuji" throughout their Brief refers to JP10-294261, which, according to the English translation of record for this reference, which we use, is properly referred to as Akune.

2. Claims 40 and 41 are rejected under 35 U.S.C. § 103(a) over Akune in view of Maeda, as evidenced by Sada, and further in view of Su.
3. Claim 42 is rejected under 35 U.S.C. § 103(a) over Akune in view of Maeda, as evidenced by Sada, and further in view of Satterfield.

ISSUE

Have Appellants shown reversible error in the Examiner's determination that it would have been obvious to have modified the brush member of Akune to include an additional means of further removing contaminants by including a vacuum port for removing such contaminants? We answer this question in the negative.

FINDINGS OF FACT

Akune teaches that brush 51a of the washing head part 51 washes the chuck 11 with an acetone solution. After washing, N₂ is jetted from the jet ports 51d of the washing head part 51. Akune, para. [0022].

Maeda teaches vacuuming contaminants through a brush assembly. Maeda, Figure 2, col. 3, ll. 9-48, col. 5, ll. 8-19.

³ Claim 33 was inadvertently omitted from the statement of the rejection. It is clear that claim 33 stands rejected because this claim is discussed in the body of the rejection by the Examiner (Ans. 4) and argued by Appellants (Br. 10, Reply Br. 3). Claim 33 is also indicated as finally rejected on page 1 of the Brief.

PRINCIPLES OF LAW

When a claim is to a combination that “‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious” under the law of 35 U.S.C. § 103. *KSR Int’l. Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (quoting *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976)).

“[A]nalysis [of whether the subject matter of a claim would have been obvious] need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418.

“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability.” *Id.* at 417.

ANALYSIS

As an initial matter, we confine our consideration to claim 33, which contains claim limitations representative of the arguments made by Appellants, with a focus on the rejection involving the combination of Akune in view of Maeda pursuant to 37 C.F.R. § 41.37(c)(1)(vii).⁴

⁴ The Examiner relies upon Sada for showing that a conventional material in making a chuck is steel. Ans. 5. Appellants do not dispute this teaching. Appellants argue that Sada does not “add any missing element” of the combination of Akune in view of Maeda. Reply Br. 6.

Appellants argue that modifying Akune according to the Examiner's rejection would destroy the Akune reference. Br. 10, Reply Br. 4. Appellants set forth many reasons as to why the modification would destroy Akune, and we refer to the Brief and Reply Brief in this regard. Br. 10-11, Reply Br. 4-5. Appellants also argue that there would not be a reasonable expectation of success because the combination would either not work or the effectiveness for cleaning would be compromised. Br. 11, Reply Br. 4-5. Appellants argue that Akune teaches away from vacuuming. Reply Br. 3-4. Finally, Appellants argue that one would not look to Maeda, which is using a vacuum brush to clean gas releasing surfaces of a semiconductor fabrication apparatus versus removing contaminants from a chuck as in Akune. Br. 11-12, Reply Br. 5. We are not convinced by Appellants' arguments for the following reasons.

As pointed out by the Examiner on pages 5-6 of the Answer, Maeda is relied upon for teaching vacuuming contaminants through a brush assembly. Maeda, Figure 2, col. 3, ll. 9-48, col. 5, ll. 8-19. The Examiner explains that the modification of the brush head 51 of Akune to include an additional port (vacuum port) for further removing contaminants, does not destroy Akune. We agree. Appellants have not convinced us that a combination washing/vacuum brush would destroy the function of Akune. Akune teaches that brush 51a of the washing head part 51 washes the chuck 11 with an acetone solution. After washing, N₂ is jetted from the jet ports 51d of the washing head part 51. Akune, para. [0022]. Therefore, Akune teaches moving air (in the form of a gas) through these jet ports. Thus, Appellants have not convinced us that vacuuming (moving air), using these same jet ports, to further remove contaminants, would destroy the function of Akune.

Furthermore, Appellants have not convinced us that there would not have been a reasonable likelihood of success in vacuuming in this manner, and we additionally refer to the Examiner's comments made on page 8 of the Answer in support thereof.

Finally, we agree with the Examiner's comments made on page 9 of the Answer that both Akune and Maeda are directed to cleaning a surface, and therefore, one skilled in the art would have looked to the teachings of Maeda. "When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability." *KSR*, 550 U.S. at 417.

In view of the above, we agree with the Examiner's determination of obviousness. *KSR*, 550 U.S. at 417-418.

We therefore affirm the rejection of claims 33-39 and 55-62 under 35 U.S.C. § 103(a) over Akune in view of Maeda. We likewise affirm the other rejections for the same reasons (in these rejections, Appellants argue that the secondary references do not cure the alleged deficiencies of the combination of Akune in view of Maeda).

CONCLUSIONS OF LAW

Appellants have not shown reversible error in the Examiner's determination that it would have been obvious to have modified the brush member of Akune to include an additional means of further removing contaminants by including a vacuum port for removing such contaminants.

DECISION

Each rejection is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

kmm

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